

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/017466

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ F16D13/62, 13/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ F16D13/00-13/76, F16B19/06

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Jitsuyo Shinan Toroku Koho	1996-2005
Kokai Jitsuyo Shinan Koho	1971-2005	Toroku Jitsuyo Shinan Koho	1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2002-195290 A (Kabushiki Kaisha OS Giken), 10 July, 2002 (10.07.02), Column 1, lines 1 to 29; column 4, line 47 to column 10, line 19; Figs. 1 to 5 (Family: none)	1-19
Y	JP 9-177821 A (Fichtel & Sachs AG.), 11 July, 1997 (11.07.97), Column 1, line 45 to column 2, line 12; column 3, line 24 to column 5, line 10; Fig. 1 & DE 19545972 A1 & GB 2307958 A & US 5779018 A	1-35

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
02 February, 2005 (02.02.05)

Date of mailing of the international search report
22 February, 2005 (22.02.05)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 10-141387 A (Exedy Corp.), 26 May, 1998 (26.05.98), Column 1, line 1 to column 2, line 9; column 5, line 31 to column 14, line 4; Figs. 1 to 10 & DE 19739974 A1 & GB 2317208 A & US 5878857 A	1-35
Y	JP 2002-181072 A (Across Co., Ltd.), 26 June, 2002 (26.06.02), Column 1, lines 1 to 42; column 7, lines 26 to 49; column 8, line 1 to column 15, line 8; Figs. 1 to 12 (Family: none)	1-35
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 64529/1978 (Laid-open No. 167251/1979) (Sankyo Denki Kabushiki Kaisha), 24 November, 1979 (24.11.79), Full text; all drawings (Family: none)	9
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 31632/1972 (Laid-open No. 104971/1973) (Nakanishi Metal Works Co., Ltd.), 06 December, 1973 (06.12.73), Full text; all drawings (Family: none)	10
Y	JP 9-250556 A (Exedy Corp.), 22 September, 1997 (22.09.97), Column 1, line 1 to column 2, line 4; column 2, line 46 to column 7, line 25; Figs. 1 to 4 & EP 797016 A2 & US 5904234 A	14-15
Y	JP 59-133829 A (Luk Lamellen und Kupplungsbau GmbH.), 01 August, 1984 (01.08.84), Page 6, upper right column, line 19 to page 8, upper right column, line 19; Figs. 1 to 3 & DE 3248119 A1 & GB 2133115 A & US 4548309 A	16-18
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 24349/1987 (Laid-open No. 132127/1988) (Aisin Seiki Co., Ltd.), 30 August, 1988 (30.08.88), Full text; all drawings (Family: none)	16,17,19

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 60-205022 A (AUTOMOTIVE PRODUCTS P.L.C.), 16 October, 1985 (16.10.85), Page 1, lower left column, line 4 to page 2, lower left column, line 20; page 3, upper right column, line 19 to page 4, lower right column, line 14; Figs. 1 to 3 & EP 153078 A1 & GB 2154288 A	20-35
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 112018/1990 (Laid-open No. 68226/1992) (Atsugi Unisia Corp.), 17 June, 1992 (17.06.92), Full text; all drawings (Family: none)	20-35
Y	US 1524771 A (Clarence G. WOOD), 03 February, 1925 (03.02.25), Page 1, line 72 to page 2, line 40; all drawings (Family: none)	20-35
Y	GB 2300233 A (FICHTEL & SACHS AG), 30 October, 1996 (30.10.96), Page 5, line 8 to page 7, line 25; all drawings & DE 19514808 A1 & US 5720373 A	20-35
Y	JP 2-203029 A (Borg-Warner Automotive GmbH.), 13 August, 1990 (13.08.90), Page 1, lower left column, line 5 to page 2, upper left column, line 18; page 4, lower left column, line 5 to page 5, lower right column, line 17; Figs. 1 to 4 & EP 372118 A1 & US 4967893 A	23,25-28,33
Y	US 1896025 A (PACKARD MOTOR CAR CO.), 31 January, 1933 (31.01.33), Page 1, lines 74 to 93; Figs. 1, 3 (Family: none)	24
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 146968/1977 (Laid-open No. 73463/1979) (Stanley Electric Co., Ltd.), 25 May, 1979 (25.05.79), Full text; all drawings (Family: none)	29,30

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

A common matter pertaining to the inventions in Claims 1-35 is "a clutch disk assembly having a carbon friction plate and a clutch disk body having disk-like input part and output part in which the inner peripheral part of the friction plate is connected to the outer peripheral part thereof".

The result of search reveals that the clutch disk assembly is not novel since it is disclosed in, for example, Document 1: JP 9-177821 A (Fichtel & Sachs AG.) 11 July, 1997 (11.07.97), line 45, column 1- line 12, column 2, line 24, column 3-line 10, column 5, Fig. 1, and Document 2: JP2002-181072 A (Across Co., Ltd.),
(continued to extra sheet)

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

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Continuation of Box No.III of continuation of first sheet(2)

26 June, 2002 (26.06.02), lines 1-42, column 1, line 1, column 8-line 8, column 5, Figs. 1-12.

Since the clutch disk assembly makes no contribution over the prior art, the common matter is not a special technical feature in the meaning of the second sentence of PCT Rule 13.2.

As a result, there is no common matter to all the inventions in Claims 1-35.